

Serial No. 10/532,259
Response Date: October 6, 2009
Customer No. 24498

PF020145

Remarks/Arguments

Claim Rejections – 35 USC 103:

Claims 1-8 stand rejected under 35 U.S.C. §103 as being made obvious by Ishizuka et al. (US6771235) in view of Kane et al (US Pub 2001/0024186).

Ishizuka discloses a device for displaying images comprising:

- an image display panel (11) comprising a first array (col. 6, line 54 : cathodes lines B1-Bn) and a second array (col. 6, line 53 : anodes lines A1-Am) of electrodes which serve an array of cells (col. 6, lines 51-58: "E(m,n) ... arranged in matrix"), where each cell is powered between an electrode of the first array and an electrode of the second array effecting between them an intrinsic capacitor C_i (see fig. 1-6, 10, 14-15),

- power supply means for generating a potential difference between two terminals (*implicitly inferred by the current sources 23i* : see col.7, lines 11-13 and col.8, lines 33-41),

- drive means (13, 14, 12 : see fig.9):

- a) adapted for successively connecting each electrode of the second array to one of the terminals of the power supply means (col.6, lines 62-67),

- b) adapted for, during each sequence of connection of an electrode of the second array, simultaneously connecting one or more or even all the electrodes of the first array to the other terminal of the power supply means in order to allow the power supply means to power (i.e. to allow the cells to emit light) at least one of the cells linked both to the respective electrode of the second array and the respective electrode of the first array (col.7, lines 7-15).

According to the Office Action (end of page 3 of the Office Action – referring to Fig. 16, Col. 9, lines 15-35 of Ishizuka), Ishizuka discloses also that, during the sequence of connection of an electrode of the second array, a transfer of charge may occur towards each cell to be

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powered from the intrinsic capacitors of the other cells that are linked to the same electrode of the first array as the cell to be powered.

Ishizuka does not explicitly disclose that this transfer of charge actually allows this charge to power the cell to be powered, according to amended claim 1.

In the Office Action, it is also acknowledged that Ishizuka does not disclose that this charge has been accumulated during a just prior/preceding sequence of connection of another electrode of the second array.

According to paragraph [0042] of Kane et al.,

“each LED pixel is driven in a manner that is insensitive to variations in the LED turn-on voltage, as well as to variations in the TFT threshold voltages. Namely, the present pixel is able to determine an offset voltage parameter using an autozeroing method that is used to account for these variations in the LED turn-on voltage, and the TFT threshold voltages.”

According to Kane et al., “the operation of the pixel 300 is described in three phases” ([0044] in this order : a precharge phase, an auto-zero phase, and a data writing phase. One skilled in the art understands that the actual powering of the pixel (i.e. the emission of light by the pixel) can only start from the data writing phase, but cannot start before. Therefore, during the precharge phase and the auto-zero phase, the pixel is never powered, even by a precharge. Please refer the end of paragraph [0045] which indicates that the precharge phase has “no net effect on the pixel under consideration.” Please refer to the explanation about the auto-zero phase in paragraph [0046] which shows compensation of threshold voltages of TFT but without any actual powering of the pixel.

Further according to the interpretation of Fig.7 in the Office Action and paragraph [0069] of Kane et al., “the capacitor of the pixel is precharged by the previous auto-zero lines at 782 therefore the charge[s] are accumulated from previous cycle of operation and when the precharge circuitry operate[s] in the switch based connection of a TFT matrix[,] the charge are built up in the previous row connection” (per 1st paragraph of page 4 of the Office Action).

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Applicants strongly disagrees. "the the capacitor of the pixel which is precharged by the previous auto-zero lines at 782" is not, as in the invention, the intrinsic capacitor C_i effected between an electrode of a first array and an electrode of a second array both adapted to power a cell, but is a capacitor 702 that is part of a precharge circuitry. This "capacitor of the pixel" is not

precharged by the previous auto-zero lines at 782", because the positive pulse which is applied on the Autozero line 782 ... turns "on" transistor N5, but is not responsible by itself for precharging the "capacitor of the pixel" (per paragraph [0074] and paragraph [0045]). This turning "on" of transistor N5 then allows the precharging of Node C to V_{DD} through a power supply electrode which is supplied by a voltage V_{DD} (see same paragraphs and Fig. 7).

Therefore, although the precharge is actually performed during a previous cycle of operation (namely during "the previous line time"), this precharge is not provided by a transfer of charges accumulated in "the intrinsic capacitors of the other cells that are linked to the same electrode" as in the invention.

Even if, "when the precharge circuitry operates in the switch based connection of a TFT matrix, the charge (of "the capacitor of the pixel") are built up in the previous row connection," this precharge is not a charge provided by a transfer of charges accumulated in "the intrinsic capacitors of the other cells that are linked to the same electrode" as in the invention, and this charge does not concern the intrinsic capacitor C_i effected between an electrode of a first array and an electrode of a second array both adapted to power a cell, as in the invention.

Therefore, the applicant strongly disagrees with the position in the Office Action stating that "Kane et al. teaches wherein said charge have been accumulated during a just prior/preceding sequence of connection of another electrode of the second array" (1st paragraph of page 4 of the Office Action), because the charge which has been applied through the application of the voltage V_{DD} (therefore not "accumulated") during a just prior/preceding sequence of connection of another electrode of the second array (namely during "the previous line time") are not "said charge," (i.e. charge provided by a transfer of charges from "the intrinsic capacitors of the other cells that are linked to the same electrode" as in the invention).

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Moreover, there is no evidence in Kane et al. that the precharge would allow the powering of the cell, i.e. the emission of light by this cell (see amendment of claim 1).

Therefore, by applying the teaching of Kane et al. to the device for displaying images of Ishizuka, one skilled in the art cannot reach the invention.

Consequently, claim 1 and its dependent claims which include the subject matter of claim 1 are made unpatentable under USC 103 b Ishizuka et al. in view of Kane et al.

Conclusion

In light of the above assertions and claim amendments, reconsideration of the rejections to each of the claims is respectfully requested.

If the Examiner has any questions or comments that would facilitate the disposition or resolution of the issues, he is respectfully requested to contact the undersigned at 609-734-6816.

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